

## **Bed Bug Outreach Efforts for 2012**

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### **Abstract:**

In the past 15 years, bed bugs have made an astounding comeback all across the United States. Bed bugs are small blood-feeding insects that invade human habitats, specifically homes, and thrive in places where people sleep. Since bed bugs were nearly absent for 40 years in the US, very little was known about their biology and current level of pesticide tolerance. In 2010 the news media focused great attention on bed bugs, which increased the public's familiarity with this pest. However, educational needs for dealing with bed bugs are still overwhelming, and include outreach to cooperative extension educators, Master Gardeners, pest control professionals, facilities managers, social workers, medical professionals, travelers, college students and their families, landlords, tenants of rented properties, and just about everyone else. The people most vulnerable to bed bugs are those in multiple unit buildings, the elderly (often living alone), and those living in assisted or group homes. Elderly, disabled and disadvantaged individuals who have fewer resources and sometimes lack the capacity to recognize or deal with bed bugs are more commonly living with bed bugs.

The New York State IPM Program has approached the bed bug issue from a variety of angles for over 12 years. Staff members are frequently called upon to help individuals, organizations and agencies deal with bed bugs in homes, facilities, and schools. Through phone calls, presentations, sample identification, development of educational materials and other outreach, the NYS IPM Program is working hard on raising public awareness about this pest and means of controlling it. In a broad effort to provide outreach to cooperative extension educators and other trainers a Frequently Asked Questions about bed bugs page is maintained on the NYS IPM program website and the Traveler's Cards for easy ID of bed bugs is also available. Many training sessions were held in 2012, reaching audiences such as social workers, housing providers and medical service providers.

### **Background and justification:**

Bed bugs, *Cimex lectularius*, are blood-feeding parasites of humans and some animals. Bed bugs cannot fly or jump, but they run and they are excellent at remaining undetected in the human environment. These insects, once commonplace in homes and hotels, nearly disappeared from developed countries by the 1950's due to the use of residual insecticides. A steady resurgence of bed bugs became evident in the late 1990's, and since this time research and outreach from various sources have expanded yearly. But so have the bed bug infestations.

Throughout the United States people are facing bed bug infestations in their homes, dormitories, hotels, and other types of housing and accommodations. According to a survey of the pest control industry conducted in 2005, the resurgence of bed bugs has been consistent across the US (Gangloff-Kaufmann et al. 2006). Although bed bugs are not vectors of disease, they do have significant health effects for sufferers. Bed bugs cause high levels of anxiety, stress, and loss of sleep when they infest the home. While reactions to bites vary among individuals, bites often result in itchy welts that may lead to secondary infections from scratching. Anemia has been reported for the elderly in heavy infestations. Bed bugs have also been identified as an asthma trigger. However, the overexposure to pesticides, especially from self-treatment, may be a greatly underestimated public health risk.

Extension programs in many states have responded with fact sheets, new research programs, and educational opportunities. In addition, health departments and municipal agencies in a few cities have taken steps to help their citizens with bed bug problems. Still the problem appears to have worsened over the past few years. Complaints to the New York City help line, 311, have increased from about 540 in 2004 to more than 8800 by the first half of 2008. Field collected bed bugs from various parts of the US are known to be resistant to commonly used pyrethroids (Romero et al. 2007). Although bed bugs are not currently known to vector disease, their public health impact can be seen in the numbers of bites victims suffer, the emotional stress of fighting them, the financial strain placed on families and people when money is tight, and the potential for pesticide overuse. Even with the improved level of communication among pest control professionals and university researchers, and increased awareness and skill level, bed bugs continue to be among the most frequent and challenging pests to deal with. This project addresses the needs of the pest control industry, municipal agencies, and the general public for help with bed bug problems. In particular, focusing on underserved audiences, such as shelters and group homes, may have a significant impact on the protection of human health while indirectly benefitting others.

**Objectives:**

- Raise awareness about bed bugs and effective management practices;
- Increase the adoption of successful management tools for bed bugs;
- Reduce the overall risk to New Yorkers from bed bugs and the tools used to manage them.

**Activities:**

The Nassau County Bed Bug Task Force continued to meet on a monthly basis in 2012, addressing the concerns brought to the table by various stakeholders. The Task Force hosted a large workshop in June geared toward college campus facility managers and public/private housing managers. The workshop topics addressed the specific issues found on college campuses, including bed bug infestation in dorms and lounges, as well as accidental introductions to offices and classrooms. The workshop was advertised throughout Long Island, NYC and into the Hudson Valley. There were over 100 participants.

Searching for new ways to make a difference for people with bed bugs, the Task Force decided to adapt a series of brochures produced by the Connecticut Coalition Against Bed Bugs. These were authored by Dr. Gale Ridge, of the Connecticut Agricultural Experiment Station. Dr. Ridge has been at the forefront of bed bug outreach for many years in CT. These brochures are complete and ready to use in the next 2013 Regional Bed Bug Workshop scheduled for February 14<sup>th</sup>, 2013 at Molloy College campus in Farmingdale, NY.

Members of the Task Force constantly look for opportunities to demonstrate bed bug management methods to the wide variety of stakeholders that come into contact with them. Members have submitted grants to fund projects, but to date none have been successful.

NYS IPM staff developed a simple, yet complete bed bug outreach packet of information for the NY State DEC website. Staff also gave 17 presentations to a large variety of audiences including schools, housing, health and other care providers.

An online course is in preparation that will train pest management professionals to properly inspect, identify, manage and treat bed bug infestations. This course will be offered through the Pesticide Management Education Program for DEC pesticide certification credits. It will consist of approximately two one-hour modules focusing on the best practices to find and treat bed bugs in homes, schools and offices. The course focuses on the use of IPM and discusses the challenges in relying solely on pesticides for bed bug control.

Thousands of samples of bed bugs sent to a large NY school district are being investigated to determine the sex and life stage of bed bugs introduced to schools on a regular basis. The location, type of school (elementary, junior high or high school), date, sex or juvenile and number of bed bugs in each sample are all recorded. The goal is to answer the question “Are female adult bed bugs more likely to be transported into buildings (such as schools) than adult males or juveniles?” and also “in schools do younger or older kids have a higher risk of transporting bed bugs?” Other aspects include the time of year versus age/sex and time of year by total numbers of bed bugs found in schools, as a measure of population fluctuation.

### **Results and discussion:**

Over the past few years a noticeable reduction in bed bug complaints has occurred, both in extension offices in NY and via the pest management industry. Anecdotes from industry suggest that infestations are smaller and easier to eradicate than years ago. One possible reason for this is the level of awareness of New Yorkers about bed bugs. Another could be an increase in skills and professionalism of the pest management industry with bed bug management. NYSIPM staff members have been involved in the training of pest management professionals and raising awareness of the general public since 1999. In 2012 the number of people reached through web-based resources was over 300,000 for bed bug materials alone. The Frequently Asked Questions document was single the most popular document on the NYS IPM website in 2012.

Feedback from workshops featuring bed bug management information was overwhelmingly positive (1.35 average score - out of a range of 1-5, 1 being very valuable and 5 – not valuable).

Participants often request trainings for their own workplace and staff. In 2012 NYSIPM provided individual trainings for home health care and social work case manager staff of five additional organizations.

In a combined total of 17 workshop and presentation events, NYS IPM staff directly trained 567 people in bed bug identification, management and avoidance in 2012. Some of the major topics of these events were correct identification of bed bugs, defining the scope of the infestation (small and new to large and widespread), dealing with multi-unit housing and bed bug infestations, control methods that work, reducing risks from pesticide use and avoidance of the use of total release foggers.

#### **Project locations:**

Albany, Nassau, Suffolk, Monroe, Westchester, Orange Counties, NY, Hartford CT, Memphis TN.

#### **Presentations in 2012**

<b>Date</b>	<b>Title and type of presentation</b>	<b>Location</b>	<b>Audience</b>	<b># of people</b>
12/19/12	Bed bugs Suck (Pinnacle Place residents meeting)	Rochester/Monroe	Assisted living residents & staff	25
1/27/12	Bed Bugs: What You Need to Know (extension association hosted workshop)	Middletown, Orange County, NY	Health professionals, social workers PMPs	51
2/1/12	Bed Bugs: What You Need to Know	Good Samaritan Hospital; BayShore, Suffolk Cty, NY	Home health care professionals	16
2/2/12	Bed Bugs Suck (Rochester Healthy Homes Coalition meeting)	Rochester/Monroe	Human health services agencies personnel	10
3/1/12	Bed Bugs: What You Need to Know	Catholic Health System; Hauppauge, Suffolk Co. NY	Home health care professionals	42
3/18/12	Protocol Development as a Framework for Managing Bed Bug Issues	Entomological Society of America, Eastern Branch meeting, Hartford CT	Entomology and IPM professionals	18
3/19/12	Bed Bugs Suck (URMC medical residents seminar)	Rochester/Monroe	Medical residents	20
3/30/12	Bed Bugs: What You Need to Know	Roosevelt, NY Nassau County	WIC educators and case workers	36
3/27/12	Increases in Bed Bug Incidence, Outreach Efforts, & Diverse Environments	International IPM Symposium, Memphis TN	All types of people	25
4/27/12	“Bed Bug Behavior (And other biology that affects control)”	Valhalla, NY- Westchester County	PMPs and extension staff	35
5/17/12	“Bed Bugs – What You Need	Oakdale, NY -Suffolk County	Group home care	30

	to Know”		staff	
5/23/12	“Bed Bugs for Health Care Workers”	Uniondale, NY -Nassau County	Health department program staff	40
6/13/12	“Bed Bugs – the Dormitory Experience”	Farmingdale, NY Nassau/Suffolk	Misc audience	100
9/19/12	“IPM for Bed Bugs and Cockroaches”	Middletown, Orange County	Health professionals	48
9/20/12	“IPM for Bed Bugs and Cockroaches”	Newburgh, Orange County	Health professionals	42
11/2/12	“Bed Bugs in Schools – An Update”	Albany, NY	Statewide School IPM Committee	15
11/26/12	“Bed Bugs and IPM”	Ithaca, NY	Applied Entomology students	14

#### References:

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